P2P Streaming Protocol (PPSP) Requirements

draft-ietf-ppsp-reqs-02

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Change since WG draft -01

- **Address the comments/suggestions from Lars, and discussion with Yingjie Gu and Lin Xiao. Main changes are:**

1) **_Terminology:_**
   1) Delete the definition of "User Type", "Buffer Map", "Bitmap";
   2) Change the definition of "Peer list" to state that peer list can be obtained from tracker or other peers;
   3) Add a definition of "Peer ID";

2) **_Basic Requirements:_**
   1) Delete PPSP.REQ-2, as tracker discovery is out of scope;
   2) Delete PPSP.REQ-3, as data classification is out of scope;
   3) Delete PPSP.REQ-6, as data format is out of scope;
   4) Delete PPSP.REQ-9, as IP address change report has no specific requirement to tracker protocol;
   5) Change PPSP.REQ-1 to -3 and state that Peer ID is unique in swarm;
   6) Add PPSP.REQ-1 to state that track protocol and peer protocol should be as similar as possible;
   7) Add PPSP.REQ-6 for Chunk ID;

Change since WG draft -01

- Address the comments/suggestions from Lars, and discussion with Yingjie Gu and Lin Xiao. Main changes are:

1) *PPSP Tracker Protocol:*
    1) Merge PPSP.TP.REQ-4 into -3, as this is "may", not formal requirement item;
    2) Merge PPSP.TP.REQ-8 and -9 to make only one formal requirement to state that peer report/ update message should reflect the status of peer, and put all the specific description (e.g. online time, physical link status, battery status) into example text;

2) *PPSP Peer Protocol:*
    1) Change PPSP.PP.REQ-5 to clarify that the requirement is not about "mechanism", but "protocol/message";
    2) Merge PPSP.PP.REQ-6 and -7 to make only one formal requirement to state that peer report/ update message should reflect the status of peer, and put all the specific description (e.g. online time, physical link status, battery status) into example text;

Change since WG draft -01

- Address the comments/suggestions from Lars, and discussion with Yingjie Gu and Lin Xiao. Main changes are:

1) *Delete PPSP Error Handling and Overload Protection Requirements, as there is no specific requirements to PPSP protocols.*

2) *Security Considerations:*
   1) Change PPSP.SEC.REQ-1 to state that PPSP must support closed swarm where all peers are authenticated;
   2) Split PPSP.SEC.REQ-5, as there are actually two requirements item in -5;
   3) Merge PPSP.SEC.REQ-4 and -5;
   4) Change PPSP.SEC.REQ-6 to explicitly state that PPSP must avoid DoS attack;
   5) Change PPSP.SEC.REQ-7 to state that PPSP system should be robust;
   6) Delete PPSP.SEC.REQ-9;

3) *Change reference items.*

Discussion from list

- ## QoS Requirements proposed by Christian

QoS.REQ-1:

> Setup time to receive a new streaming channel or to switch between channels should be reasonable small. This time mainly depends on the size of the receiving buffer.
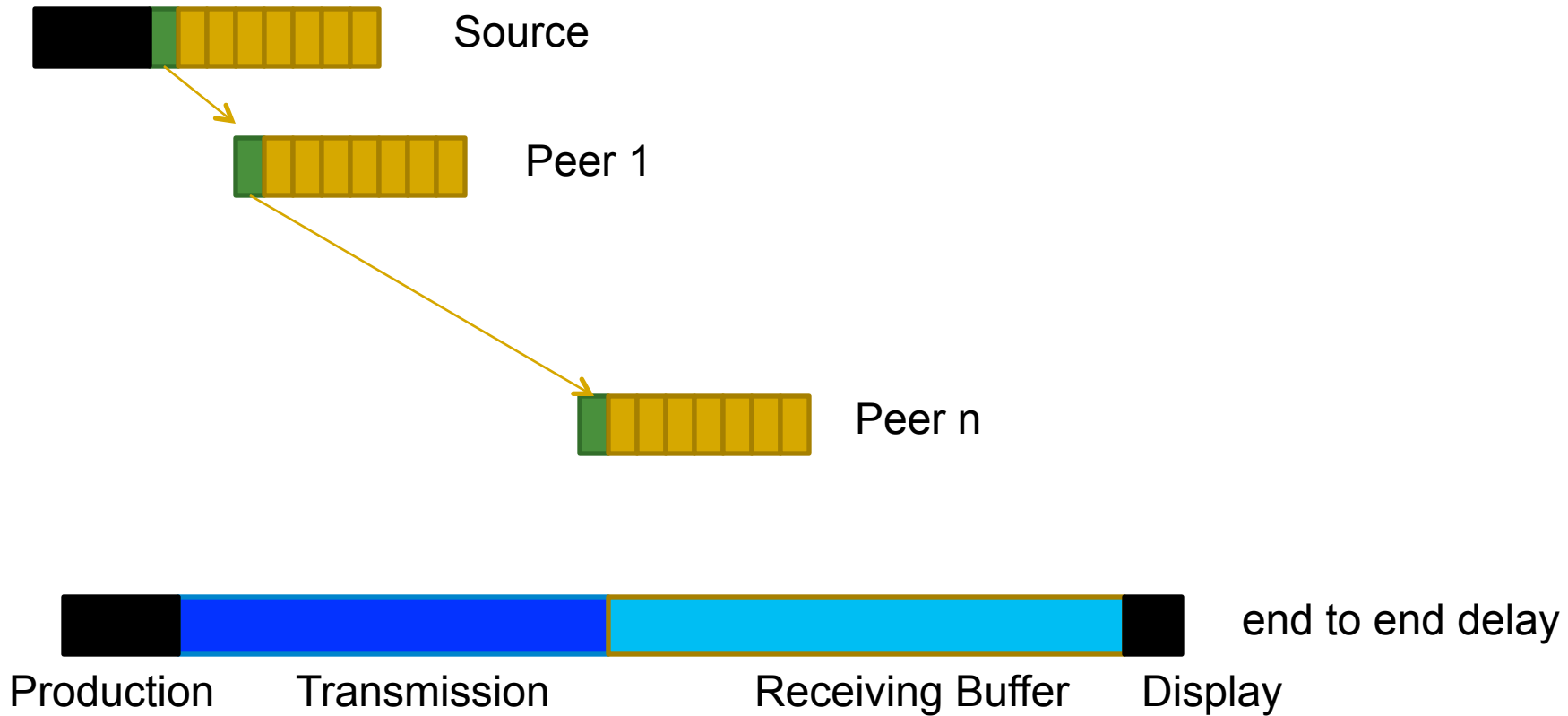
QoS.REQ-2:

> End to end delay (time between content generation, e.g. camera and content consumption, e.g. user side monitor) will become critical in case of live streaming. Especially In provisioning of sports events, end to end delay of 1 minute and more seems to be not acceptable.

QoS.REQ-3:

> The user should receive an error free copy of the original streaming. This can be done with addition of redundancy and the usage of packet retransmission. But the additional delay has to be taken into account.

Open question: Do we need to adopt these new requirements?

Quality issues in p2p live streaming

Source

Peer 1

Peer n

end to end delay

Production   Transmission   Receiving Buffer   Display

Thank you